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ABSTRACT

Communication apprehension (CA) has emerged as the dominant paradigm for explaining communication stress and its corollaries. It has achieved this status largely because several key assumptions have not been challenged or assessed empirically. These assumptions are that CA (1) is a pervasive social phenomenon, (2) affects external outcomes of communication, (3) is a scientifically useful construct, and (4) is caused by apprehension about communicating. To assess these assumptions, an alternative construct, evaluation apprehension (EA), has been explicated, operationalized, and contrasted with CA. Defined as a learned predisposition about how the threat of evaluation is managed in social interaction, EA was examined in a series of six studies involving college students. The studies revealed that EA predicted more variance than CA in a variety of criterion variables, including communication performance, student success, self-esteem, classroom proxemics, occupational preference, and rewards for communication. The results suggest that EA is more likely to be the true causal agent in stress reactions to communicating than CA. References, tables and figures are appended. (FL)

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COMMUNICATION APPREHENSION AND EVALUATION APPREHENSION:

CRITICAL AND EMPIRICAL ANALYSES OF COMPETING PARADIGMS

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Abstract

Communication apprehension has emerged as the dominant paradigm for explaining communication stress and its corollaries. It has enjoyed dominant status largely because several key assumptions have not been systematically challenged or assessed empirically. In order to assess these assumptions, an alternative construct was explicated, operationalized, and contrasted with communication apprehension--evaluation apprehension.

Defined conceptually as a learned predisposition about how the threat of evaluation is managed in social interaction, evaluation apprehension was found to be a scientifically useful construct. A series of six studies revealed that evaluation apprehension predicted more unique variance than communication apprehension in a variety of criterion variables: communication performance, student success, self-esteem, classroom proxemics, occupational preference, and rewards from communication. These results supported the hypothesis that evaluation apprehension is more likely to be the true causal agent in stress reactions to communicating.

Note: I wish to thank the members of the Department of Communication for their invaluable assistance in this logistically complicated research. Professors Loyd Pettegrew and Ken Cissna, University of South Florida, and Bob Arkin, University of Missouri, were particularly helpful with their critical appraisal of this research. Bob Hudson, Sharon Chukla, Carvis Workman, and Robert Graves provided special inspirational and pragmatic support. To the hundreds of students who participated as respondents, I owe my greatest thanks. Without their patience and indulgence, this research would not have been possible.

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COMMUNICATION APPREHENSION AND EVALUATION APPREHENSION:

CRITICAL AND EMPIRICAL ANALYSES OF COMPETING PARADIGMS

The sanity of the individual in a dialectically-conceived society depends exclusively on one's ability and willingness to construct a socially "sacred canopy" (Berger, 1967). Stitched together with the "thin thread of conversation," the fabric of this canopy serves to shield individuals as they search for meaning, as individuals and as members of society. Without the communicative warp and woof of social interaction, one is stripped of social sanity, and relegated to an exclusively biological existence. Thus, the ability and willingness to communicate is inextricably linked to creating one's "nomos"--a sense of meaningfulness in a vast jungle of meaninglessness. Accordingly, any threat to this "thin thread" of our "sacred canopy" becomes an inherently critical concern for the Communication scholar.

As a field of inquiry, Communication has committed itself to creating, testing, and evaluating paradigms to explain threats to our ability and willingness to communicate. One such paradigm is communication apprehension, the stress reaction required by the demands of the communicative act. Communication apprehension has emerged as the dominant paradigm for explaining communication stress and its corollaries. While new labels (e.g., anomie, avoidance, reticence, and communicative unwillingness), new operationalizations (e.g., PRCA-25, PRCA-24), and conceptual forays[1] abound, many conceptual frontiers have yet to be mapped (Kelly, 1982).

The concept of "paradigm" (Kuhn, 1970) is a useful one. It describes how a "community" of scholars can aggregate intellectual and fiscal resources to afford personal as well as disciplinary benefit. In order for disciplinary benefit to accrue, however, Feyerabend (1963, 1965, 1970) argues that there must be tolerant competition between paradigms. There is no revolution, scientific or otherwise, without at least two opposing forces. Progress in scholarly inquiry depends upon construct competition.

Communication's biggest asset is also its greatest liability. With such a complex phenomenon as "communication," the individual scholar of Communication can freely select those constructs for study which not only lengthen one's vita, but satisfy natural curiosity as well. While such complexity encourages academic freedom in the richest sense of the word, the complexity of communication as a construct exacerbates our attempts to fathom its full dynamics. As a consequence, there is a propensity for scholars to concen-trate on, and thereby consecrate, one construct at a time. This resource concentration is natural. It takes a good deal of individual and collective energy to maintain a successful, extended program of research for a given construct. Communication apprehension (CA) is one such construct. In Communication, the CA construct has served a purpose. Heuristically serving to promote a vast array of research studies, CA has proffered new conceptual frontiers (Daly & McCroskey, 1984).

In an attempt to stake out <u>new</u> conceptual territory, however, the con-

ceptual assumptions of the CA construct have not been challenged systematically. It is abundantly clear that CA does operationalize something, and something important. It predicts too many theoretically vital and pragmatically relevant communication characteristics to be dismissed lightly, if at all. As a consequence, scholars have benevolently, and perhaps blindly, overlooked key assumptions about the CA construct.

This article explores, tests, and evaluates four key assumptions about communication apprehension:

- ✓ CA is a pervasive social phenomenon
- ✓ CA effects external outcomes of communication
- ✓ CA is a scientifically useful construct
- ✓ CA is caused by apprehension about communicating

Assumptions are just that--assumptions. As such, they cannot be proven, only disproven. Without construct comparison, however, a vacuum results. When a construct's assumptions are tested in a vacuum, assumptions cannot even be disproven. The epistomology of systematic inquiry has little tolerance for unfalsifiable assumptions. The critical analyses which follow reveal that these assumptions need re-examination, that the absence of a comparative construct has prevented their full acceptance, and therefore, their complete testing has been thwarted.

Assumption I: CA is a Pervasive Social Phenomenon

The pervasiveness of any construct can be an important asset. Both Achinstein (1971) and Cushman and Pearce (1977) speak to the importance of a construct's scope and generalizability. Evidence for Assumption I is summarized by McCroskey (1977):

> It is vital we learn more about why this is true [unacceptable CA levels is over 20% of school children] and what we can do to eliminate what is clearly the most pervasive communication problem in our contemporary society (p. 93).

Beyond the sheer numbers of people that CA is argued to affect, a wide variety of characteristics have been shown to be linked with CA. For example, CA has been linked to occupational preferences (Daly & McCroskey, 1975), classroom seating preferences (McCroskey & McVetta, 1978), assertiveness (Beatty, Plax, Kearney, & McCroskey, 1984; Soares, 1984), and unwillingness to communicate (Burgoon, 1976). Links have been shown across such wide contexts and variables as academic achievement (McCroskey & Andersen, 1976; Scott & Wheeless, 1977; McCroskey & Payne, 1984), dating preferences (McCroskey & Sheahan, 1978), and physiological arousal (Behnke & Beatty, 1981; Motley, 1976; Porter, 1974). Representative studies linking personality include studies on self-esteem (McCroskey, Daly, Richmond, & Falcione, 1977), an entire personality inventory (McCroskey, Daly, & Sorensen, 1976), and interpersonal attraction (McCroskey, Daly, Richmond, & Cox, 1975).

There are two problems with the evidence supporting Assumption I.

First a minor problem--while the 20% figure is impressive support for CA's pervasiveness, it is sometimes used to imply an equal pervasiveness of social dysfunction. The 20% figure is based on the percentage of cases which have PRCA scores higher than one standard deviation (15.3) above the PRCA average score (65.6; McCroskey, 1984). The 20% parameter is primarily an artifact of descriptive statistics of self-report scaling. With a normative base of 25,000+ respondents, one can be sure that the standard deviation and mean estimates are stable. One cannot infer directly, however, that the amount of social dysfunction noted above is equal to this descriptive parameter. Accordingly, this inference is assumptive and, as such, open to question.

The second problem with Assumption I is more serious. Research supporting this assumption failed to consider alternative constructs. An underlying, similarly pervasive construct may not only account for a person's CA, but the correlated characteristics noted above as well. The research is weak for the same reason that concluding rats were the cause of the black plague was a devastatingly incorrect conclusion. Rats were always present during the outbreaks of the plague, but it was their parasitic infestations that caused death. Perhaps CA has a parasite, a construct to which it is subordinate as a causal agent. To permit the unquestioning acceptance of this assumption is tantamount not only to poor science, but also speaks poorly about the efficiency of clinical efforts designed to mediate the effects of CA.

Assumption II: CA Effects External Outcomes of Communication

As a method of inquiry, modern science demands its constructs to possess concomitant, if not causal, links to important "bottom-line" variables. In Physics, the explanation of particle movement is one such "bottom-line." In Biology, the understanding of birth, growth, and death are bottom-lines. In Communication, the explanation of external outcomes of communication (quality and/or quantity) is not only a bottom-line, it is its raison d'etre as well. A biological construct which does not ultimately assist an explanation of birth, growth, or death has limited pragmatic and scientific value. The linkage between communication apprehension and communication quality and/or quantity cannot be assumed; it must be empirically demonstrated.

The CA literature has used a variety of operationalizations for communication quality and quantity. Most would agree that such indices as credibility perception, message comprehension, and observer ratings (see, e.g., Porter, Freimuth, & Kibler, 1974) are reasonable, partial measures of communication quality. Communication avoidance or disruption is often used to operationalize communication quantity (see, e.g., Burgoon & Burgoon, 1974; Burgoon, 1976, 1977). McCroskey (1984) summarizes the case for Assumption II's acceptance:

> A major conclusion we can draw from this conceptualization of CA and communication learning is that high CA is highly associated with ineffective communication. As such, CA must be considered a central concern of any instructional program concerned with more effective communi-

> cation as a targeted outcome, whether the program is labeled a program in communcation competence or a program in communication skill. Basic competencies and skills cannot be separated from the problems of CA (pgs 37-38).

The central problem with Assumption II is its epistomological paradox. As currently conceived, CA is a cognitive construct (i.e., an internal state). As such, "the only valid indicant of CA is the individual's report of that experience. Measures of physiological activation or observations of behavior can provide, at best, only indirect evidence of CA" (McCroskey, 1984, p. 34). From this ontological base, McCroskey continued, ". . .there is no [single] behavior that is predicted to be a universal product of varying levels of CA" (p. 34). Given this cognitive conceptualization, CA's links to external outcomes are only expected to be demonstrated periodically. People's cognitions sometimes affect and/or effect their behavior and sometimes do not. As a result, the CA scholar is confronted with an epistomological paradox--does a failure of CA to predict and/or explain a given index of communication quality or quantity constitute a "failure" of the construct, or is it the naturally occurring unpredictability of "internal states"?

I subscribe to an epistomology which disallows non-falsifiable claims. If an internal state cannot be shown consistently to predict (and hopefully explain) external outcomes, then that internal state has limited scientific value. In addition, if an internal state's linkages to external outcomes are detected sporadically, then pragmatic efforts to "correct" it are replete with error and wasted resources. If we can not uncover empirically the external manifestations of an internal state, clinical efforts are doomed to failure. Moreover, scientific efforts to validate an internal state are impossible. An internal state whose existence is non-falsifiable is not the stuff of which science or even art is made.

The evidence which links CA to communication quantity is strong. High CA's have been shown consistently to avoid communicating (Burgoon, 1976), learning where communication is required (McCroskey & Andersen, 1976; McCroskey & Payne, 1984), and dating from a wider field of potential partners (McCroskey & Sheahan, 1978). It makes initial intuitive sense that people who are fearful of communicating will avoid communicating.

What is unclear, however, is how CA affects the quality of communication and whether its impacts are, in reality, socially dysfunctional. To the extent that people avoid communicating, then communication avoidance dramatically affects communication quality. But, having CA is not fatal. While 20% of the adult population may "have it," concluding that CA is ". . . clearly the most pervasive communication problem in our contemporary society" (McCroskey, 1977, p. 93) is problematic. It may be more reasonable to conclude that 20% of the population reports discomfort during social interaction, and for some individuals their discomfort translates into behavior that may or may not be socially dysfunctional (see, e.g., Burgoon & Koper, 1984). For example, Burgoon (1976) was able to detect connections (r = .53) between CA and communication avoidance (quantity), but not expected rewards from communicating (quality). If Assumption II is valid, then

people who have high CA should expect fewer rewards from communicating. They did not. If Assumption II is valid, then there should be consistent linkage between the level of CA and communication outcomes.

A potential resolution of this paradox lies in the sociology of inquiry and in the nature of inquiry itself. As a field of inquiry, Communication is appropriately wary of "nonsignificant results." Studies which fail to show links between CA and external outcomes can be dismissed as statistical aberrations--or one of those cases where an "internal state" was not predictive. In either case, the probability of being published is less than ".05".

As to the nature of inquiry itself, it demands that not only must constructs predict external outcomes, but that failures to predict be explained. Otherwise, causal AND interpretive inferences can only be assumed, not empirically supported. Again, the absence of a competitive construct, a construct to which CA can be contrasted, has limited explanations of "failures to predict." With no competitive construct, the probability of explaining why CA does not predict when it should predict is also less than ".05".

Assumption III: CA is a Scientifically Useful Construct

In order for a construct to meet the epistomological demands exacted by science as a method of inquiry, four criteria must be met (Porter, 1979). First, the construct should be logically related to other, previously validated constructs. Second, the construct should be able to predict and/or explain a variety of behaviors (Jaccard, 1974, 1979; Daly, 1978). Third, the predicted or explained behaviors must be behaviors that are scientifically useful. Fourth, the construct must contribute unique information to the understanding of predicted/explained behaviors above and beyond competing constructs. These criteria are fundamental and heirarchial; i.e., all criteria must be met and the last criterion is the most critical of the four.

CA meets the first three of these criteria. For example, CA research has demonstrated logical, empirically-supported relationships, with generalized anxiety (Porter, 1979), self-esteem (McCroskey, et al., 1977), and physiological activation (Behnke & Beatty, 1981). In other words, if people have a high level of anxiety in general, it makes sense that people should also have anxiety about communicating. If people "feel good" about their self-concept in general, it is reasonable that they should also "feel good" about communicating. If people are actually physiologically activated, it seems reasonable that their self-reports of CA should reflect said activation.

CA also predicts a variety of behaviors. CA has been shown to predict non-verbal behavior (McCroskey, 1976; McCroskey & McVetta, 1978; Burgoon & Koper, 1984), college drop out rates (McCroskey & Payne, 1984), and communicator style observations (Porter, 1982).

CA also predicts behaviors which have important scientific implications. CA's links to nonverbal behavior, for example, tie CA research to a wholly

different and important body of research findings. Communication plays a central role in the transmission and evaluation of learning. Given CA's link to educational progress, it is indeed predicting behaviors worth predicting. CA's link to communicator style (Norton, 1978) demonstrates an important connection to the whole communication process--how others interpret the style behaviors of their interactive partners.

Evidence regarding the fourth criterion is sparse. There is little evidence to show that CA makes unique contributions to the explanation of these noted behaviors. In almost all the above research, CA was studied in a paradigmatic vacuum. It is difficult to ascertain, empirically or otherwise, whether CA makes unique contributions to explaining behavior if no alternative constructs were used to assess these contributions. Without a competitive construct, then, efforts to validate CA completely are impossible. If CA makes no unique contribution, then its causality is questionable and its construct integrity is limited.

Assumption IV: CA is Caused by Apprehension About Communicating

At first glance, this assumption would seem unquestionably supported on a priori grounds. Our intuition suggests that when people report they fear communicating, that is what, in fact, is being measured. With closer inspection, however, Assumption IV implies that the primus movatur (first cause) of stress from communication acts is the result of the communication act itself. This assumption is naturally manifested in the CA literature. McCroskey's (1984) most current thinking reflects this assumption:

> My most recent papers present the view that CA is "an individual's level of fear and anxiety associated with either real or anticipated communication with another person or persons" (p. 13).

While it may be initially reasonable to assume fear of communicating is the root cause for what are self-evident stress reactions, Assumption IV still deserves critical and empirical scrutiny. If the primus movatur is not the communicative act, but other variables inherently concomitant with act, then the ontological base of the CA paradigm is suspect. The validity of the first three assumptions rises or falls with the validity of the fourth. If CA is pervasive, effects communication's external outcomes, and is scientifically useful only because it is a concomitant agent in the dynamics of communication, then it is an artifact. If it is not the fear of communicating which underpins the CA construct, then clinical efforts to mediate its effects may be aimed at incorrect causes. Research demonstrating linkages to communication variables may also be artifactual, and etiological explorations may be directed toward incorrectly ascribed causal agents.

All four assumptions are key to accepting CA as a construct for explaining the stress demands associated with communicating. While empirical evidence in the literature can be marshalled to "prove" these assumptions, the failure to develop a competing construct has limited scholars' ability to disprove these assumptions. CA has been studied typically in a vacuum. With no competing construct, it has been difficult to assess

completely the first three assumptions, and impossible to assess the fourth.

Given the central ontological importance of this assumption, an empirical test of same is, by definition, theoretically and pragmatically critical. Accordingly, this research permits an empirical test of Assumption IV by the explication, operationalization, and empirical evaluation of an alternate, competing construct.

Evaluation Apprehension as a Competing Paradigm

Evaluation is an inherent component in every communicative act.[2] Whether expressing one's opinion at a public meeting or one's love in an intimate relationship, the threat and correspondent fear of being evaluated is inherently pervasive. While less intense in small children, adulthood's increased socialization creates a cognitive self-monitoring mechanism. The threat of others' evaluations of the communicative act serves to activate, maintain, and censor communication behavior. As evaluation's consequences are weighed against relative costs and rewards, people guage the appropriateness of their interactive behavior accordingly. Like other threats to the human organism, evaluation threat varies in intensity as a function of contextual idiosyncracies. The "student speaking to the professor" and the "student speaking to the janitor" have naturally different types and levels of evaluation threat. Like other stress-demand characteristics, how evalution threat is managed is largely learned. As a function of life experience, the individual learns how to cope with evaluation, or retreats from communicative activity where evaluation is particularly intense. Others seeking activation, may actually seek out situations where the evaluation is more intense. When a person is being overtly judged or assessed, the evaluative component is clearly present. But even in phatic interactions where simple recognition is the prime function, an unanswered "Hello," for example, can create attributional tension; i.e., "What's the matter with him? Or, is it me?" While small children are usually less aware of evaluation, adult-like attributions soon develop with increased socialization. With adolescence, people become, "acutely aware that others are continually forming impressions and using these impressions to guide the course of social interaction" (Arkin, 1981, p. 311). As socialization effects solidify, people develop a cognitive self-monitoring mechanism to cope with evaluation's threat. The attributions which comprise this mechanism then in turn serve to activate, maintain, and censor communication behavior.

In short, as a function of previous experience with the rewards and costs of evaluation in varied contexts, people learn to cope with the threat of evaluation by forming a predisposition about evaluation threat--evaluation apprehension. It is partially from this predisposition that the human organism projects rewards and costs, analyzes contextual variations, and makes decisions about when, how, and what to communicate.

The evaluation apprehension construct is not new to either social science research in general or communication research in particular. As early as 1904 (Meumann, 1904), researchers have wondered why the mere presence of others influences performance. As the years passed, research on

the relationship between the presence of others and performance effects was inconsistent. The now famous Zajonc hypothesis (Zajonc, 1965, 1966) was advanced to explain the inconsistent results; i.e., coactive presence of others impairs learning new responses and facilitates emission of previously learned or instinctive responses. While most of the research to follow supported Zajonc's notion, Cottrell (1968) argued with empirical support that social facilitation effects are a learned source of drive and not, as implied by the Zajonc hypothesis, innate.[3] As a consequence, understanding what a person has learned about "social presence" is a key to understanding/predicting social facilitation effects.

Extending his thought further, Cottrell (1972) advanced the notion that this learned drive creates a predisposition which he labeled, "evaluation apprehension" (p. 226). This predisposition, how one has learned to cope with evaluation threat, becomes the central construct by which social facilitation effects are predicted. Cottrell concluded his discussion with a call for:

> . . . a general and systematic description of social arrangements in which the presence of others reliably elicits anticipation of evaluation and rivalry, and thereby increases the individual's drive level (pgs 229-230).

Thus, one way to interpret "social facilitation" is that the presence of others creates an evaluation threat. From the mere presence of others, individuals recognize the potential for observation and evaluative judgments from communicating. The threat of being evaluated facilitates emission of learned or instinctual responses and inhibits the learning of new responses. It is toward this goal of Cottrell's "general and systematic" description of evaluation apprehension that this research was partially directed.

From a different theoretical base, attribution theory posits that people attribute causes to a variety of social interaction characteristics (c.f., Jones, et al. 1971; Harvey, Ickes, & Kidd, 1981) Among these are the inherent consequences of social perception (Snyder, 1977). Arkin (1981) explicated further,

> . . . people are acutely aware that others are continually forming impressions and using these impressions to guide the course of social interaction. Thus, the definition of the situation and oneself conveyed to others and the resulting impression others are intended to form, are created to lead them to behave in line with the presenter's own interests (pg 311).

Evaluation apprehension is part of this attributional map. That is, people generate attributions about how evaluation affects their communication performance which in turn influences how they choose to communicate (Darley and Goethals, 1980). Arkin and Baumgardner (1985) speak to the self-handicapping nature of these attributions' pervasiveness:

> We live in a world where a great deal of what we do is evaluated, both by ourselves and by others, with an eye toward assessing the level of ability underlying performance . . . Performance on the tennis court, in the classroom, in the concert hall, and across a table-for-two is scrutinized closely to determine athletic, intellectual, artistic, or social competence (in press).

When Communication research is examined, evaluation apprehension is mentioned as such only once (Porter, 1981). Porter seemed to be concerned that a CA operationalization (PRCA-25) was able to predict communication characteristics which it should not be able to predict; i.e., the PRCA-25 is decidedly "public" in its measurement context, yet it predicts communication characteristics which are decidedly "interpersonal" in context.

Porter's "resolution" of the apparent inconsistency was the evaluation apprehension construct. With no empirical support, he argued that CA is coincidentally predictive and accordingly redundant. Playing off an earlier critique of the CA construct (Porter, 1979), he concluded,

> If the field is [truly] interested in exploring reactions to communicatively induced stress, the PRCA should be considered, but only as a shadow of the real factor--evaluation apprehension (Porter, 1981, p. 69).

In some respects, Porter's critiques were hyperbole--there is not much sense in arguing about the scientific utility of a construct when its value can be assessed empirically. Indirectly, McCroskey (1984) calls for just such an assessment:

> When we are evaluated, we tend to be more anxious than otherwise. . . Of course, not everyone responds to evaluation in the same way. As Daly and Hailey (1983) have noted, good writers do better when being evaluated, but poor writers do worse. This may also be true for oral communication, but no research is available that addresses this issue (p. 26).

Daly and Buss (1984) have also noted the importance of the evaluative component: "The more a speaker feels an audience will be evaluating him or her, the greater the audience anxiety. . . If the evaluation is crucial, more audience anxiety occurs" (p. 68). If McCroskey's assertions are correct, evaluation apprehension could be the actual cause behind the effects normally ascribed to CA.

Evaluation apprehension, then, is a learned predisposition regarding the management of threat imposed by the evaluation of others, whether overt or anticipated. As conceived, the evaluation apprehension construct is purported to be:

- ✓ generalizable across social contexts
- ✓ attributions constructed from previous experience with evaluation
- ✓ linked to stress characteristics associated with communicating
- ✓ inherently pervasive in all social interaction.

Operationalizing Evaluation Apprehension

When research about this predisposition is examined, four major elements of the evaluation apprehension construct manifest themselves. First, on an a priori basis, it seems reasonable that people have a generalized, positive to negative valence about evaluation. Some people like it more than others. Some avoid social interaction where it is particularly intense; others, attributing social facilitation from its presence, seek it out. Any operationalization of evaluation apprehension should tap this "approach-avoidance" component of evaluation apprehension.

> Paradigm Narrative. Sam loves conventions. He comes a day early and stays a day late. Recently, Sam chaired a program with no respondent. Sam decided to place himself in the limelight by being "critic" for the panel. "Good morning . . . . We have four papers on our panel. Three are scholarly. One is not. See if you can figure out which is which. Our first presenter is . . . ." The audience blanched and Sam glowed. Later, saddened that it was over but energized nonetheless, Sam left for home--eager for the next faculty meeting where he could play another of his favorite roles, "devil's advocate." Sam always did love an audience.

Second, evaluation apprehension seems to be functioned by the degree of expected rewards from evaluation. Anticipation of praise or criticism has been shown to affect social interaction (Cottrell, Wack, Sederak, & Rittle, 1968; Paulus & Murdoch, 1971; Henchy & Glass, 1968). If people expect greater rewards as a function of being evaluated, or fewer rewards, then their predisposition toward same will vary accordingly. Therefore, any measure of evaluation apprehension should tap this "expected rewards" facet of evaluation apprehension.

> Paradigm Narrative. Jimmy and his mom spend lots of summertime at the pool. Mom gets a tan and Jimmy gets wet without being yelled at. "Hey Mom! Look at me--I'm doin' the whale! . . . Mom?!" Finally, looking over the top of her Cosmo, Mom smiles--and Jimmy does the whale, again. Retreating to her story, Mom stretches to the August sun's warm caress. . . . "Hey Mom! Wanna see me do the frog? Maaa. . .uhm! Momma!!" Entranced by her story and seduced by the sun, Mom sneaks a peek and sees Jimmy--looking for someone else to play for.

Third, evaluation apprehension seems to be partially caused by the salience which individuals place upon the sources of evaluation. While an individual may expect rewards in similar contexts, if the importance of the evaluation source is diminished, then the effects of same will be diminished. It is natural for our fear of evaluation to increase if we care more about the source of that evaluation. The results of two studies support this proposition (Ganzer, 1968; Quarter & Marcus, 1971). Dealing with test anxiety, Ganzer found as a secondary finding that Ss who cared less about the source of the test not only had less test anxiety, but performed dif-

ferently as well. Quarter and Marcus extended this notion to social interaction and found Ss do indeed react differently as a result of their opinion about the evaluation source, in this case, "an audience." Therefore a comprehensive measure of evaluation apprehension should measure the perceived salience of evaluation sources as well.

> Paradigm Narrative. John has always had a penchant for Corvettes. Becoming more affluent, John now has the means to buy that white, t-topped, 427 turbo-charged 'Vette. On the way to work he spies the veritable paragon of his transportational fantasy. Pulling alongside for a closer look, he discovers the driver is a greasy-haired Elvis look-alike. [John never did like Elvis.] John buys an Alpha Romeo.

Fourth, evaluation apprehension is also comprised of an individual's predisposition regarding the equitability or fairness of evaluation. It seems possible that an individual may approach (or avoid) evaluative situations based on prior experience with the perceived capriciousness of the communication process. An individual, in some cases, might normally expect evaluation's rewards, generally "approach" evaluation, and even perceive the evaluation source to be "credible"; yet, avoid social interaction's judgments because of its capricious nature. Arkin (1981) identified the functional relationship between self-presentation styles and relevant others' approval. When communication is perceived as capricious, however, an individual creates a "protective orientation because it is difficult to ascertain which impressions are judged positive and negative" (p. 315). The child who attributes no regularity (equitable predictability) in evaluations becomes a "helpless and depressed" communicator (Seligman, 1975). Therefore, a measure should tap this "protective orientation" attribution; i.e., evaluation's equitability.

> Paradigm Narrative. John's experiences with Sally have convinced him that she's "fickle". Sometimes she wants a "take charge guy" and sometimes she "wants her space." John cannot figure out when she's going to want what. To John, Sally is capricious. When deciding where to go to dinner, he now neither tells nor asks, but avoids the subject. To Sally, John is neither a "take charge guy" nor does John allow her "to input;" John is a capricious wimp. After thirty minutes of avoiding the issue, frustrated, Sally and John go to McDonald's, for it's too late to get a reservation. While Sally attributes John's "wimpiness" to unknown causes, John incorporates Sally's unreliable mindset as just another example of, "Women--You can't live with them, you can't live without them."

In summary, evaluation apprehension is a predisposition learned from managing past experiences related to the evaluation threat associated with communicating. This predisposition seems to be derived from four types of human experience. These four facets in turn suggest a quadratic gestalt of evaluation apprehension; i.e., evaluation apprehension is functionally

structured by four facets of evaluation's:

- ✓ approach-avoidance
- ✓ equitability
- ✓ expected rewards
- ✓ salience of evaluation sources.

Comparing Corollary Paradigms

The ultimate goal of this research was to provide a fair empirical crucible in which two paradigms could compete equally for scientific utility. To compare fairly two such paradigms is problematic in this case for two reasons. First, both constructs have some theoretical isomorphism in stress reaction ontology. Both constructs' ontological premises are based upon stress reactions associated with the communicative act. Both purport that a fear-like predisposition is the driving force behind deleterious effects. Both constructs meet all the traditional tests exacted by the scientific enterprise--except one. Neither construct has been shown to make unique contributions to understanding communication behavior. Unlike CA, evaluation apprehension has no rich history of research studies for empirical support, only a reasoned potential for scientific usefulness. So, the second problem is one of extant research on evaluation apprehension. It has not been operationalized except for laboratory manipulations. It has no operationalization to compare with the PRCA-24, the most current and valid index of CA. While the potential for construct validity is present, no studies exist to test its construct validity. Because of this initial unequal footing, the first goal of this research was to develop a psychometrically sound operationalization of evaluation apprehension.

Once an adequate operationalization was developed, the second goal of this research was to assess empirically these assumptions about CA:

- ✓ CA is a pervasive social phenomenon
- ✓ CA effects the external outcomes of communication
- ✓ CA is a scientifically useful construct
- ✓ CA is caused by apprehension about communicating.

RESEARCH PROGRAM I: The Operationalization of EA

METHOD

The first research program had three objectives. The prime objective was to provide a data set from which the theoretical explication of evaluation apprehension (EA) could be tested; i.e., its purported quadratic structure, and its ability to predict criterion variables.

The secondary objective was to create an operationalization of EA beyond the laboratory operational definitions reviewed by Cottrell (1972). The goal was to create a self-report instrument designed to reflect the hypothesized nature of EA and an instrument which could compare psychometrically with the self-report instruments used in CA research.

A tertiary objective was to identify and assess the reliability of a criterion variable by which EA and CA could be judged. The goal was to insure that "paradigmatic competition" was based on a "fair" standard--a crucible where both paradigms would have an equal chance at theoretical dominance.

Sample

A random sample of 255 Ss was drawn from four types of communication classes at a large metropolitan university: dyadic contexts, N = 35, "interviewing" sections, junior level students; articulation contexts, N = 85, "voice and articulation" sections, sophomore level; advanced one-to-many contexts, N = 14, "advanced public speaking" sections, junior level; and beginning one-to-many contexts, N = 121, "fundamentals" sections, freshman level. Due to lost data from students dropping classes and missing "performance" data, the net N was 224 for all prediction hypotheses. Of these Ss, 46% were men and 39% were Communication majors.

Predictor Variables

Evaluation apprehension (EA). In order to operationalize EA, 21 informants from the S population were interviewed about how they felt about "being evaluated." Using an open-ended, inductive set of questions designed to elicit statements about each of the four facets of EA explicated earlier, a set of 36 Likert-type statements were generated to form an Evaluation Apprehension Scale (EAS). Each of the 36 items reflected at least two informants' responses regarding being "evaluated, judged, analyzed, assessed" in a variety of social contexts (e. g., school, home, at work with superiors, subordinates, co-workers).[4] From this "item bank" of 36 items, 24 items were selected--six for each of the hypothesized dimensions of EA. Due to reliability and validity checks discussed below, four items were deleted from this group of 24 to yield an EA operationalization with four intact sub-scales and 20 items.

Validity. EAS was deemed a valid measure of EA for five reasons. First, EA was hypothesized to possess four sub-constructs. If the EAS measures what it purports to measure, then the EAS should have mathematically-discernable, quadratically-dimensioned psychometric structure. Such was the case. Factor analyses yielded a four-factor solution (62.7% accounted for variance, oblique rotation, all Eigenvalues for factors were greater than 1.0). In addition, the rotated structure corresponded mathematically to the hypothesized quadratic-dimensionality of EA. That is, all four groups of items not only clustered together to support this four-facet explication, but also were found to be obliquely "separate" factors. As Table 1.1 indicates, there was sufficient justification to partial psychometrically each group of items into a separate subscale. The hypothesized conceptual framework of EA was supported empirically.

Second, the EAS was significantly correlated to a measure of trait anxiety. It is reasonable to assert that individuals who are apprehensive in general (trait anxiety) will also be apprehensive in general about evalu-

ation. To test this assertion, 78 Ss were also asked to complete Spielberger's trait anxiety measure (Spielberger, et al., 1974). With the exception of the salience sub-scale, all sub-scales correlated significantly ($\alpha = .05$) with the trait anxiety measure ($r = -.36$, equitability; $r = -.30$, expected rewards; and $r = -.35$, approach-avoidance). There was, in other words, a tendency for perceptions of evaluation's fairness, reward expectations, and pleasantness to be associated with higher levels of trait anxiety. The salience sub-scale was not linearly related to trait anxiety, but was related curvilinearly (eta = .39, $p < \alpha$). Low and high salience scores (caring little or much about evaluation sources, respectively) were associated with high trait anxiety scores. Moderate salience scores were associated with low trait anxiety scores. Taken as a group, these correlations support the validity of EAS; i.e., EAS was able to predict trait anxiety scores, a relationship it should be able to predict.

Third, the EAS was able to discriminate between men and women Ss in a manner consistent with cultural expectations associated with each gender. Women scored significantly higher ($t = 2.09$, $df = 308$, $p < \alpha$) on the salience sub-scale; i.e., women "cared more about what sources of evaluation think." Women scored higher ($t = 2.15$, $df = 308$, $p < \alpha$) on the equitability sub-scale; i.e., women felt "evaluation to be fairer" than men. Men scored higher ($t = 2.22$, $df = 308$, $p < \alpha$) on the approach-avoidance sub-scale; i.e., men "approached" evaluation more than women. There were no detectable differences (two-tailed test) between men and women on the expected rewards sub-scale ($t = 1.83$, $df = 302$, $p > \alpha$). These differences, consistent with *a priori* gender stereotypes,[5] point to the construct validity of EAS.

Fourth, the EAS was able to predict assertiveness scores in a manner consistent with its purported predispositional nature. One would expect individuals who are less "assertive" to be more conscious of evaluation sources, less concerned about the consequences (rewards or costs) of evaluation, and less concerned about evaluation in general. Such was the case. Using an independently drawn sample of 62 Ss from the same population, EAS's four factors were able to account for 26.7% of the variance ($R = .517$, $df = 4/57$, $p < \alpha$) in scores from the Rathus Assertiveness Schedule (Rathus, 1973; Rathus and Nevid, 1977).

Fifth, *post hoc* analyses revealed the EAS sub-scores were able to discriminate between the 31 Ss who dropped their classes and those 255 Ss who did not. While effect sizes were small (.26, .21, .40, .22), all four sub-scores were able to discriminate significantly ($p < \alpha$) between these two groups of Ss. Ss who dropped their classes had lower expected rewards, perceived evaluation to be less equitable, cared less for evaluation's sources and reported a predisposition to "avoid" evaluation in general. These results were consistent with the hypothesized nature of evaluation apprehension.[6] The EAS was able to predict actual behavior.

Reliability. As noted in Table 1.1 the EAS was comprised of four factors. Since each factor was treated as a separate sub-scale, reliability information is given separately for each sub-scale. Salience: 6 items,

average inter-item correlation = .39, reliability = .795, average correlation with total sub-score = .70, and all six items were able to discriminate between high and low salience scorers. Equitability: 4 items, average inter-item correlation = .32, reliability = .649, average correlation with total sub-score = .602, and all four items were able to discriminate between high and low equitability scorers. Expected rewards: 4 items, average inter-item correlation = .40, reliability = .728, average correlation with total sub-score = .64, and all four items were able to discriminate between high and low reward expectation scorers. Approach-avoidance: 6 items, average inter-item correlation = .45, reliability = .832, average correlation with the total sub-score = .74, and all six items were able to discriminate between high and low scorers.

The stability of EAS is also a critical psychometric factor. EA is asserted to be a learned predisposition where change within a moderate span of time is unlikely. In order to test this assertion, 80 Ss were asked, 82 days later, to complete EAS again. As Table 1.2 attests, there were no appreciable differences in mean scores across the time period for all four sub-scores of EAS. In addition, the stability coefficients were sufficiently high (.71 to .80) to warrant EAS as an operationalization of a learned predisposition.

Communication apprehension (CA). The PRCA-24 (McCroskey, 1982) was used to operationalize CA. The PRCA-24 is not only a superior instrument due to high reliability (normally > .90), but also because of its ability to measure contextual variations of CA (McCroskey, Beatty, Kearney, & Plax, 1985). The PRCA-24 enables its user to score an overall index of CA and contextual sub-scores--CA in meetings, small groups, conversation, and public speaking situations. Reliabilities (McCroskey, et al., 1985) range from .91 for "group" CA to .96 for "public" CA. Because prediction modeling contrasts would be imbalanced with only one CA predictor (PRCA-24 totalled) and four EAS predictors, and because there is pragmatic justification for examining the four contextual referents implied by PRCA-24, four sub-scale scores were used to operationalize CA.

Predicted Variable

The criterion variable was the rated communication quality of 224 Ss, each of whom were rated for a variety of communication skills and behaviors. The 121 "fundamentals" Ss gave three presentations. The first was a presentation about one of several interpersonal communication topics being covered in the course content. The second was the traditional "speech to inform," and the third was a "speech to persuade." The instructors in each class evaluated each of the three performances on several criteria--the result of which was a rated performance score ranging from 50 to 100 points.

The 35 "interview" Ss were rated in four different communication situations: a performance appraisal, a job interview as interviewer, a job interview as interviewee, and an information-gathering interview. The 85 "voice and articulation" Ss were rated on five assignments where they were

to read student-selected passages and judged on the quality of their vocal and articulation precision. The 14 "advanced public speaking" Ss gave four presentations: two "persuasion" speeches, one "informative" speech, and one "ceremonial" speech.

Because each sub-sample's context had different performance scoring systems and a different number of performances, Z-score normalization procedures were used. That is, Z-score values were constructed within each set of instructor ratings so that cross-context performance ratings could be compared psychometrically.

The inter-rater reliability of the "fundamentals" ratings was .74; "interview" ratings = .81; "voice and articulation" ratings = .72; and "advanced public speaking" rating reliability = .82. These scores were deemed to be scientifically useful criterion variables in that (a) such ratings are often used to operationalize communication behavior; (b) these scores were reliable (i.e., apples and oranges were not being added), and (c) regardless of their connection to measures of actual communication effectiveness (e.g., opinion shift), for these Ss in these communication contexts, these scores were the index of communication quality; i.e., these scores were a partial basis on which actual grades were to be determined. In other words, these scores had sufficient psychometric and pragmatic value to be deployed as a criterion variable.

This variety of performances was selected for a critically important theoretical reason. McCroskey (1984) argued that CA's linkage to criterion variables can be expected only when "considering aggregate behavioral indicants of the individual across time and contexts" (p. 34). In other words, if CA is to be contrasted fairly and empirically with EA, there must be sufficient aggregational, temporal, and contextual variety for CA to assert its predictive utility. Hence, the selection of these rather disparate performance situations.

Statistical Treatment of Data

Multiple prediction equations were used to test the comparative predictive utility of the four EAS factors and the four context-relevant subscores of the PRCA-24. Performance ratings were standardized (as described above) and were used as the criterion variable against which these eight predictors were regressed.

Three prediction equations were developed. The first model inserted all eight variables at once. The second model inserted the four EAS factors first, then added the four PRCA-24 sub-scores. The third model reversed the inclusion order. The contrast between the models, therefore, was the test of construct dominance, not prediction per se. An alpha of .05 was set for all equation models.

RESULTS

Both PRCA-24 sub-scores and EAS sub-scores taken separately were signif-

cant predictors of standardized performance ratings. When all eight predictors were entered simultaneously into the prediction of performance ratings, 9.62% of the variance was shared ($R = .31$, $F = 3.78$, $df = 8/215$, $p < \alpha$). When EAS factors were entered first, PRCA-24 sub-scores added 1.4% ($p < \alpha$) additional, unique shared variance. When PRCA-24 sub-scores were entered first, EAS factors added 4.5% ($p < \alpha$) additional, unique variance.

Once one of the PRCA-24 sub-scores was entered into the equation, no additional unique variance was accounted for by any other PRCA sub-score. As expected, all of the PRCA-24 sub-scores were highly inter-correlated and negatively related to performance ratings. All EAS factors were correlated with performance ratings; i.e., as evaluation approach-avoidance, expected rewards, and equitability scores increased so did performance ratings. Salience scores, however, were curvilinearly related (eta = .27, p) to performance ratings. High or low salience scores had a slight tendency to be associated with lower performance ratings. Middle range salience scores were associated with higher performance ratings.

DISCUSSION

While reliability and validity checks did eliminate 4 of the 24 EAS items, EAS had sufficient validity to be deemed useful as a measure of evaluation apprehension. EAS was shown to have substantial stability (interval = 82 days), and reasonably acceptable internal consistency. In addition, it was shown to reflect generalized anxiety, gender stereotypes, assertiveness, and "class dropping" in ways consistent with the hypothesized nature of evaluation apprehension.

From the overall results, one can cautiously conclude that evaluation apprehension made unique contributions to the prediction of communication performance. It not only predicted what communication apprehension predicted, but added significantly more predictive power to the understanding of external outcomes as well. While there is certainly more to communication outcomes than rated communication performance, the failure of communication apprehension to dominate the prediction of same was not expected. The communication apprehension measure clearly is, on the basis of its items' semantics alone, more communication-specific than the items of the evaluation apprehension measure. It is puzzling, at first glance, that reports of "tension and fear" about communicating would be less predictive than reports of "not liking my abilities being analyzed." A tentative resolution for this inconsistency may be that communication apprehension as a construct fails to satisfy the fourth assumption--"CA is caused by apprehension about communicating." The results lend support to the notion that the learned predisposition regarding evaluation may be the driving force behind predicted effects, not the fear of the communication act per se.

The results also lend support to the notion that people who fear the communication act, do not fear the act per se, but fear the evaluation of that act. People, in short, may be stressed not so much about the act of communicating as cognitively and behaviorally stressed by the inherent concomitance of its evaluative nature. Perhaps, people's <u>evaluative</u> attri-

butions regarding the outcomes of the communication act are the true predictors of stress-related performance difficulties, not the fear of talking, interacting, behaving.

Implications

For decades, scholars have isolated communication anxiety from the total dynamics of the communication process. Such isolation without careful and comprehensive explication of unstated assumptions and without considering these dynamics naturally made communication apprehension the "dominant paradigm." On the basis of extant evidence, this isolation was justified. Communication apprehension has been shown to have dramatic connections to a variety of important variables. And there is hardly anyone on the planet who has not experienced "it," usually with regret. With additional retrospection, however, most can also recall communication incidents where we were "scared to death," not so much because we were "afraid to talk," as we were afraid of how our "talk" would be evaluated. Ask the student anticipating doctoral orals, the professor presenting his latest research, or the motorist pulled over for "weaving" about evaluation apprehension. Yes, stress is present and easily observed--but perhaps as a function of evaluation apprehension, not the fear of communication per se. As a result, the effects of communication apprehension may actually be the effects of evaluation apprehension. If nothing else, Research Program I points to the fallacy of examining constructs in isolation.

Beyond implications of examining constructs in isolation versus in a "competitive crucible," Research Program I developed an operationalization for a construct which heretofore has only played a secondary role in theories of social interaction dynamics. The results look promising. EAS was successful in "competing head-to-head" with the PRCA-24 in predicting one criterion variable--communication performance. But until further explication of its validity and other criterion variables are deployed, then its true scientific value cannot be established.

Final implication--a caveat. In the process of conducting research in general and communication avoidance research in particular, the words of Miller (1984) speak well to our field of inquiry. Our interest should lie,

> . . . not in some elusive, futile quest for the one superior conceptual model of the process of communication avoidance, but rather in assuring that the conceptual forest is not lost in a flourishing clump of terminological seedlings (p. 243).

When communication constructs are examined in isolation, it is often difficult to grasp the complex dynamics of communication. It is within the spirit of looking for more than one clump of seedlings that the evaluation apprehension construct was developed--to assist us all to see the forest for the trees.

RESEARCH PROGRAM II: The Validation of EA

While Research Program I demonstrated the potential value of EA, it did

not explain completely how EA is related to the dynamics of communication, nor did it settle some important validity issues. For one thing, there is more to the quality of communication than rated communication performance. As such, additional criterion variables must be placed in a comparative crucible with EA and CA. Otherwise, the scientific value of the EA construct cannot be fully tested.

In addition, the prediction of rated communication performance by EA was not intuitively consistent. CA's operationalization is clearly communication-specific; i.e., the semantics of the self-report scale call for ratings of tension in a variety of dyadic, group, and public communication situations. EA's semantics, on the other hand, require ratings about how much people "care about what others think, how fair evaluation is," and "expect rewards from being assessed." Normally, the contextual specificity of a self-report measure increases its predictive utility of criterion variables. In this case, however, the opposite was true. Further explication and validation was needed. While the predictive utility of the EAS was superior to CA in Research Program I, there was limited explanation as to why the EAS was "superior"--beyond the notion that evaluation is the causal agent of predicted effects, not the fear of communicating per se.

Accordingly, Research Program II was executed to test further the scientific value of EA by examining a variety of criterion variables. In addition, Research Program II sought to explicate further what the EAS measures. If its usefulness is limited to "accounting for more variance" in rated communication performance, then its value is indeed limited. Accordingly, Research Program II sought to extend the validation of the EA construct by examining its linkages to a series of other constructs.

METHOD

Conceptual Scheme

In order to validate further the EA construct, three criteria were imposed. First, EA should be logically related to other constructs. If EA has scientific usefulness, it must be able to be described explicitly. With tests of relationships to other constructs, such explication is possible. Second, EA should be able to predict criterion variables. If EA has scientific validity, it must be able to predict, and hopefully explain, variables whose prediction is pragmatically and theoretically important. Third, EA should be able to contribute unique information to the understanding of these criterion variables above and beyond competing constructs. Otherwise, EA would be a redundant construct, an artifact with little scientific value.

Procedure

In order to maximize the credibility of this research, Ss were given an aesthetically serious booklet containing this research's instrumentation (see Figure 1). Labeled the "University Communication Inventory" (UCI), its cover indicated this research was departmentally sponsored.[7] As such, S cooperation was enlisted and confidentiality protected (no names were

requested). The first of five parts of the UCI was composed of nineteen questions: demographics, a forced-choice instructional preference schedule, self-ratings of oral and written communication skills, ratings of the degree to which evaluation improves written and oral class assignments, grade point averages, and a rating of the extent to which "your grades reflect how well you have really done in college."

The second, third, and fourth parts of the UCI contained instrumentation for measuring CA, EA, and communicator style (CS), respectively. Parts two through four were composed of 59 questions; 24, 24, and 11 for CA, EA, and CS, respectively.

In order to achieve also a random sample for Studies II through V, the UCI's fifth part consisted of the appropriate instrument for one of these studies. Part five was composed of 20 to 30 additional questions, depending on the particular instrument. Once collated, the UCI's were randomly ordered for distribution and administration during classtime.

A random sample of 429 Ss was drawn from 21 different, undergraduate communication classes at a large metropolitan university. Of these 428 Ss, 407 chose to participate and voluntarily completed the UCI. Of these 407 Ss, 72.6% were juniors and seniors; 41.1% were communication majors; 39.7% were men; and the average age was 22.04 (range = 17 to 46). Because only fully completed UCI's were desired, the net N for Study I was 379. Of these 379 Ss, 68 were randomly selected for Study II, 68 for Study III, 40 for Study IV, and 46 for Study V.[8]

Psychometrics

EA was purported to possess four facets. As such, a factor analysis of its operationalization (EAS-revised) should reveal four factors. Such was the case (see Table 2.1). Oblique factor analyses demonstrated that a four-factor solution approached simple structure best.[9] With the exception of the first item of the "expected rewards from evaluation" factor, all items "fit cleanly" within their appropriate factors. The EAS was, in short, psychometrically sound to the degree that the hypothesized four-facet nature of EA confirmed mathematically via factor analyses.

While the central goal of this research was to assess the validity of EA, its operationalization must also be reliable for reasons that go beyond validity. If there are, in reality, connections between EA and criterion variables, those connections will not be detected if the reliability of EA's measurement is low. Refinements of EAS in Research Program I led to a revised instrument and to a revised instrument analysis. As reflected in Table 2.2, all indices of reliability are acceptable (.794 to .898). The kurtosis of the salience sub-score (1.976) indicates that its distribution is leptokurtic. As such, salience sub-scores' correlations with other variables were attenuated to the degree that other variables were peaked in a dissimilar manner.

CRITERION ONE: IS EA LOGICALLY RELATED TO OTHER CONSTRUCTS?

STUDY I

Does EA Affect Perceptions of Performance?

EA purports to be a predisposition affecting social interaction. As such, its operationalization should be able to predict how Ss rate the impact of evaluation on their performance. For the Ss in Study I (N = 379), course performance assignments were a major focus of concern. Ss were asked to rate on a 1 to 4 scale of "Never, Sometimes, Often," and "Always" two questions--

> When you have an oral assignment for class, does the fact that the teacher is going to "evaluate you" help you do a better job? (average = 2.73)
>
> When you have a written assignment for class, does the fact that the teacher is going to "evaluate you" help you do a better job? (average = 3.14)

When these two ratings were summed, an average score of 5.83 was registered (σ = 1.54). The correlation between the two ratings was .492 (reliability, thus = .659). A regression equation between these ratings and the four EAS sub-scores revealed that 20.8% of the variance was shared (R = .456, F = 24.6, df = 3/374, $p < \alpha$). The correlation between these ratings and EAS sub-scores was .41 (Expected Rewards, ER), .25 (Salience of Evaluation Sources, S), .23 (Equitability of Evaluation, EQT), and .21 (Approach-Avoidance of Evaluation, AAE). The most efficient equation, however, left out AAE sub-scores as they were redundant to ER sub-scores.

These results demonstrate that people who say that evaluation helps their performance also report higher expected rewards, view evaluation sources as more salient, and perceive evaluation to be generally more fair. EA's operationalization was related to what it logically should be related.

Is EA Meaningfully Related to CA?

EA purports to be a predisposition regarding the threat of being evaluated while communicating. CA purports to be a predisposition regarding the threat of communicating. EA also purports to be an inherent part of social interaction, including the social interaction contexts measured by CA's operationalization--the PRCA-24 (McCroskey, 1982). EA also purports to be a concomitant agent of CA and CA's corollaries. Based on these premises, the EAS sub-scores should correlate with PRCA-24 sub-scores. They did. Canonical correlation analysis resulted in one significant canonical root (adjusted R_C = .588, Wilks' λ = .627, χ^2 = 174.6, df = 16, $p < \alpha$) indicating that 34.6% of the variance in one measure was shared by the other (see Table 2.3).

These results support, but do not prove, the premises that EA is a pre-

disposition about threat and that it is an inherent part of social interaction. If EA did not share some variance with CA, then it could not be a concomitant agent of CA. These results, then, also support (but again do not prove) the premise that EA could be a causal agent of CA's corollaries.

These results also make pragmatic sense beyond shared variance estimates. If people expect more rewards from evaluation, "approach" evaluation, and find more equitability in evaluation, then their CA should be lower. It was. In addition, the highest correlation (-.51, see Table 2.3) between AAE sub-scores and CA sub-scores was with Public CA. It is in public contexts where evaluative threat is generally most intense. Apparently, the degree to which one cares about the sources of evaluation (S, Salience sub-scores) has little to do with the degree of CA in any context assessed by PRCA-24 (see Table 2.3).

Is EA Linked to Communicator Style?

A principal characteristic of social interaction is that people create perceptual judgments about how exchanged messages are to be interpreted. From these evaluations, a "communicator style" emerges. Watzlawick, Beavin, and Jackson (1967) theorized that all communication acts have a relational component which classifies the content and becomes a form of meta-communication. From this theoretical distinction, Norton (1978) advanced a conceptual scheme and corresponding operationalization for the communicator style construct. It is from this style that a person develops a perceptual map about how messages are to be understood; i.e., "as the way one . . . interacts to signal how literal meaning should be taken, interpreted, filtered, or understood" (Norton, 1978, p. 99).

It seems reasonable that part of this self-reported communicator style map should correspond to a self-reported map of one's predisposition about evaluation threat--EA. For example, if one expects fewer rewards from evaluation, or cares little about what others think, then that should be reflected in their communicator style. If not, then EA has limited construct validity.

In order to test this relationship between these perceptual maps, a canonical correlation analysis was conducted between the 4 EAS sub-scores and the 11 ratings of the Communicator Style Measure--Short Form (CSM, Norton, 1978). One significant canonical root (adjusted R_C = .519, Wilks' λ = .346, χ^2 = 379.29, $p < \alpha$) indicating that 26.9% of the variance in the CSM was shared by the EAS. Examination of canonical loadings revealed that Ss with higher salience and equitability sub-scores tended to report higher "friendly" ratings. People with higher approach-avoidance sub-scores tended to have higher ratings on "impression-leaving, dramatic, dominant, attentive," and "relaxed" style ratings. Respondents with higher expected rewards sub-scores not only had higher ratings on the style variables predicted by approach-avoidance sub-scores, but also higher ratings on "precise, openness, friendly," and "animated" style variables. Finally, both higher approach-avoidance and higher expected rewards sub-scores were associated with higher "overall, more effective" style ratings (F = 6.46 and 7.84,

respectively; df = 2/375, $p < \alpha$).

These results help to support the validity of the EA construct. It makes intuitive sense that people who report they care more about what others think and view evaluation generally more fair would also report a "friendlier" style. In addition, if individuals "approach" evaluation, then we would expect them to report a style which "leaves an impression," and is more "dramatic, dominant, attentive," and "relaxed." If individuals have a predisposition to expect rewards from being evaluated, then their styles can be more "open, precise, friendly," and "animated." Finally, if individuals "approach" evaluation more often and expect rewards from same, it makes sense that they would also report an overall, "more effective" style.

Does EA Discriminate Between Levels of Evaluation's Perceived Accuracy?

EA also purports to measure how people are predisposed to perceive evaluation. For the students Ss in Study I, the relative accuracy of their grades was a major focus of concern. As such, an EA operationalization should be able to discriminate between these perceptions of evaluation accuracy. On a 1 to 5 scale of "Very Little, Little, Somewhat, Much," and "Very Much," Ss were asked:

> To what extent are your grades an accurate reflection of how well you have really done in college?

Table 2.4 lists the average, relevant EAS sub-scores within each of this question's response categories.[10] Table 2.4 shows, naturally, that, as grade point averages increase, so do perceptions of their "accuracy." In addition, Table 2.4 documents the ability of EAS sub-scores to discriminate among these accuracy categories. As equitability, salience, and expected rewards sub-scores increased, so did Ss' accuracy ratings.

These results demonstrate that people who report their grades (evaluations) are "accurate," also tend to have a reported predisposition to expect more rewards and equitability from evaluation. In addition, people who care more about what others think (salience of evaluation sources) also perceive evaluation to be more accurate. These data are consistent with what the EA construct purports to be. EA's operationalization was able to discriminate what it should be able to discriminate.

Summary

There is sufficient evidence to conclude that EA meets Criterion One--it is logically related to other constructs. People's EA predicted how evaluation affects their performance of classroom assignments. EA, apprehension about evaluation threat, was correlated to CA, apprehension about communication threat. Given the purported pervasiveness of EA, this result is consistent with EA's hypothesized role in social interaction. EA was also related to a person's reported communicator style--in ways which not only explicate more directly the EA construct, but also suggest that EA is

logically related to what it should be. Finally, EA was shown to reflect in a logical manner how people view the equitability, salience, and expected rewards of evaluation.

CRITERION TWO: CAN EA PREDICT CRITERION VARIABLES?

Just because EA is related to other constructs in hypothesized, logical ways, EA must also be able to predict, if not explain, variables with pragmatic and theoretical import. The selection of which criterion variables to assess EA is problematic. A major fault of Research Program I was its selection of one criterion variable--rated communication performance. In addition, criterion variable selection is problematic because non-systematic selection might generate biased tests of Criterion Two. Given EA's ontological similarity to CA, those criterion variables which have been used to prove the validity of the CA construct were selected to evaluate EA's validity.

Is EA Linked to Student Success?

CA has been shown to predict measures of student success (McCroskey & Andersen, 1976; McCroskey & Payne, 1984). While grade point averages (GPA) are a crude index of student success, CA has been able to predict same (McCroskey & Andersen, 1976). Given that EA purports to be pervasive, affects all social interaction (including formal learning contexts), and inhibits learning of new responses (Zajonc, 1966; Cottrell, 1972), EA must be able to predict GPA. Such was the case. Using multiple regression equations, all four EAS sub-scores added statistically sufficient variance to be entered in said equations. A multiple R of .267 ($F = 5.44$, $df = 4/286$, $p < \alpha$) indicated that 7.1% of the variance in GPA could be accounted for by EAS sub-scores.

Even though GPA is a crude measure of student success, it is, nonetheless, used to admit students to graduate school, select potential employees, etc. As such, its pragmatic import is of sufficient value to be called a "criterion variable." Even though the 7.1% shared variance estimate is statistically significant, its size is hardly proof of EA's "criterion validity." Nevertheless, EA's measure was able to predict a criterion variable beyond what would be expected by chance alone--a prediction with theoretical significance it should be able to make.

Is EA linked to Instructinal Preferences?

CA has also been shown to predict student preferences for instructional techniques (Burgoon, 1975). The rationale for her research was based on the premise that CA affects one's willingness and ability to learn in the classroom. As such, instructional preferences which are high or low in communicative activity should be related to a respondent's level of CA.[11] Given the ontological similarity between CA and EA, EA's purported significance to the evaluative process naturally occuring in the classroom, and EA's pervasiveness in all social interaction, EA's measure should be able to discriminate between instructional preferences.

Using her forced-choice schedule of six instructional preferences, EAS sub-scores were able to discriminate between all but one of these preferential choices (see Table 2.5). Ss who preferred oral assignments in front of class, that students present part of the class materials, being graded for quality of class performance (vs. quantity of improvement), and being graded for quality of oral presentations (vs. written work) had significantly higher expected rewards sub-scores. Ss who preferred oral assignments in front of class and being graded for the quality of oral presentations had significantly higher approach-avoidance sub-scores. Equitability sub-scores were significantly higher for Ss who preferred being graded on the quality of class performance and Ss who preferred written over oral examinations. Salience sub-scores were unable to discriminate between any of these six instructional preferences. In addition, no EAS sub-score was able to discriminate between those Ss who preferred lectures over discussion as an instructional technique.

EA purports to be a predisposition from which humans make decisions about when, how, and what they communicate. With the exception of choices regarding "lectures" versus "discussion," one or more of the EAS sub-scores was able to predict Ss' decisions on how they would prefer to communicate in the classroom. These results partially support the criterion validity of EA.

STUDY II

Is EA Linked to "Communication" Self-Esteem?

One of the most common impacts which CA has on an individual is reduced self-esteem (McCroskey, 1984). While it is difficult to ascertain the relative causality of the two constructs, CA is clearly linked to self-esteem. Given the pragmatic consequences of low self-esteem on a whole variety of personality and social interaction characteristics, EA's links to self-esteem should also be clearly present. EA also purports to affect communication in general and evaluative interaction in particular. Assuming that a good deal of one's self-esteem is derived from the evaluations of others, then the EA predisposition about evaluation should be linked to self-esteem.

Before assessing EA's linkage to self-esteem, however, a preliminary relational test was conducted on the specifics of communication-related self-esteem and EA. Otherwise, linkage to a self-esteem operationalization might have theoretical significance for personality research, but limited pragmatic significance for communication research. To effect this test, Ss were asked to rate on a 1 to 5 scale ("Disaster, Below Average, Average, Above Average," and "Excellent"): "How well do you rate your oral communication skills?"

Using the four EAS sub-scores as predictors of this question, 18.0% of the variance in this rating was accounted for ($R = .424$, $F = 20.57$, $df = 3/376$, $p < \alpha$). Equitability sub-scores added insufficient unique variance to be entered into the equation. There was a tendency, in addition, for salience sub-scores to be curvilinearly-related to the predicted vairable; i.e., low and high salience sub-scores were associated with low ratings (eta = .27, $p < \alpha$).

As Ss communicative self-esteem ("skill as a communicator") increased, they expected more rewards and "approached" evaluation more. Ss who cared little or a lot about evaluation sources tended to have lower perceptions of this perceived skill. These results support the pragmatic significance of the test of EA's criterion validity regarding self-esteem.

Can EA Predict Self-Esteem?

Using the revised version of the Coopersmith Self-Esteem Inventory (CSEI, Watson, 1984), 68 Ss from the Study I population were randomly selected to respond to the CSEI. The CSEI had sufficient reliability (Equation 6:18 = .87, ANOVA derived = .84, average r with total = .49) to be deployed as a measure of self-esteem. In addition, the CSEI is a common measure of self-esteem and has been used in a variety of applications with successful results. Finally, the correlation between "self-rating as a communicator" and CSEI scores in Study II was .39 ($p < \alpha$), providing a cross-situational check on both those ratings and the CSEI.

Prediction equation modeling revealed that all four EAS sub-scores had significant roles in the prediction of CSEI scores ($R = .381$, 14.5% shared variance; $F = 2.66$, $df = 4/63$, $p < \alpha$). All were positively related to CSEI scores except salience sub-scores whose relationship was curvilinear. High and low salience sub-scores were associated with lower CSEI scores; higher CSEI scores tended to be associated with moderate salience sub-scores.

While the amount of shared variance was small (14.5%), these results demonstrate that EA's operationalization was correlated in a fashion which the EA construct would predict. People who have "too much" or "too little" regard for the sources of evaluation should have lower self-esteem. Such was the case. People who enjoy ("approach") evaluation, expect more rewards from same, and view evaluation as generally more fair should have higher levels of self-esteem. Again, such was the case.

STUDY III

Can EA Predict Proxemic Choices?

A criterion variable often cited for its construct validity in CA research has been its relationship to proxemics. McCroskey and McVetta (1978) found high CA's to prefer proxemic positions in classrooms where interaction is lower. McCroskey (1976; McCroskey & McVetta, 1978) has argued that proxemics are important variables by which to assess the validity of CA.

As such, 68 Ss from the Study I population (independent from Study II) were randomly selected to participate in Study III. Ss were given a diagram of a typical, chairs-in-a-row classroom (see Figure 2) and asked to categorize each seat by "if you prefer that seat," or "if you can tolerate sitting there," or "if you would not sit there unless you had to." Using the actual physical distance on the diagram of each seat's distance (in

centimeters) from the "teacher's position," two proxemic indices were constructed. The first, a measure of preferred distance to the information source, was calculated by the average distance for only those seats categorized as "if you prefer that seat." The second, a measure of desired closeness to the information source, was calculated by using the category as a weight (1,2,3), multiplying that weight by the actual distance on the diagram, and constructing an average across all 25 seats in the "classroom."

The validity of these operationalizations was based on the premise that, like previous research (McCroskey & McVetta, 1978), the distance from the teacher is a key proxemic variable in such classroom research. In addition, two proxemic scores were calculated because "preferred" seating is related, but nonetheless different, for pragmatic and theoretical reasons, from average desired closeness to the information source in such proxemic arrangements. The variance shared by the two scores (38.5%, $p < \alpha$) indicated that the two are related (as they should be), but are not psychometrically isomorphic, as they should be as well.

All four EAS sub-scores added sufficient, independent variance in stepwise equations to yield a total of 15.9% accounted for variance ($R = .399$, $F = 2.80$, $df = 4/63$, $p < \alpha$) in preferred seating distance scores. The "desired closeness" scores were predicted (shared variance = 14.3%, $R = .378$, $F = 3.87$, $df = 3/64$, $p < \alpha$) by equitability, salience, and expected rewards EAS sub-scores. Approach-avoidance sub-scores were sufficiently redundant to the others that they did not add enough variance to be included in the final equation.

EA purports to impact on social interaction in a variety of ways. It should be able to predict a variety of corollaries from that interaction beyond easily-discerned (by Ss), personality-type variables. EA should predict proxemic patterns of social interaction. These results document that it did and support the premise that EA does, in fact, predict a criterion variable it should be able to predict.

STUDY IV

Does EA Predict Occupational Preferences?

As one index of CA's criterion validity, CA has been tested as a predictor of occupational preferences (Daly & McCroskey, 1975). Based on the premise that high CA's will avoid occupations with high communicative activity, their research supported this relationship. Porter (1981) and Parks (1980), however, questioned their operationalization of CA (PRCA-25) on the grounds of limited situational consistency. Parks (1980) found CA's measure to have limited predictive value in non-public contexts. Recently, however, McCroskey, Beatty, Kearney, and Plax (1985) demonstrated that the newest CA measure (PRCA-24) does have cross-situational consistency. Porter (1979) found the PRCA-25, however, to have no predictive value for occupational preferences with high levels of interpersonal communicative activity (e.g., "counselor").

It is clear from the explication of EA that it should also be related to occupational preferences--public or interpersonally-intensive. Occupations which require a good deal of interpersonal (e.g., manufacturing supervisor) or public communication (e.g., TV newscaster) also involve evaluative components--whether conceived as performance appraisals or network ratings. If EA is the predisposition it is theorized to be, it should be able to predict said occupational preferences.

In order to test this aspect of EA's criterion validity, 40 Ss were randomly selected from the same population as Study I. Ss were given a list of 30 occupations and were asked to rate each on a 1 to 5 scale of "No appeal at all" to "Great appeal as an occupation for you." From these ratings, two scores were created. The first score was composed of the sum of ratings for the highly "public" occupations: trial lawyer, public relations rep, politician, TV newscaster, and actor. The second score was comprised of the ratings' sum of the highly "interpersonal" occupations: industrial negotiator, counselor, college professor, corporate trainer, flight attendant, corporate lawyer, public school teacher, manufacturing supervisor, media executive, and self-employed communication consultant. The reliability of the "public occupations" score was .67 (average r with total = .654). The reliability of the "interpersonal occupations" score was .70 (average r with total = .52). The variance shared between the two scores (30.3%, $p < \alpha$) indicated that the two scores were related, as they should be (communicative activity) but sufficiently dissimilar to warrant separate analyses (contextual variety).

Both salience and approach-avoidance EAS sub-scores accounted for 21.3% of the variance in "public" occupational preference scores (R = .462, F = 6.13, df = 2/37, $p < \alpha$). The expected rewards sub-scores were redundant to approach-avoidance sub-scores and had insufficient unique variance to be entered in the equation. Equitability sub-scores were not significantly correlated to "public" scores.

All four EAS sub-scores accounted for 38.1% of the variance in "interpersonal" occupational preference scores (R = .617, F = 4.91, df = 4/35, $p < \alpha$). The salience sub-score was the dominant predictor (r = .52). People who "care a lot" about what evaluators think prefer interpersonally active occupations. Because of salience scores' relative independence from other sub-scores, the other three were able to be entered into the final, full equation.

Richmond (1984) asserted individuals who choose occupations because of a psychological predisposition (CA) may have limited success, given that most positions with advancement potential, status, and economic return also carry heavy requirements for communicating. It can be argued, then, that EA, as a similarly pervasive predisposition, may have similar pragmatic implications for occupational choice.

Given the relatively small N of Study IV (40), these results may confirm one aspect of EA's criterion validity, but they do so with significant limitation. Nonetheless, the results reveal a prediction that cannot be attributed to chance alone.

STUDY V

Does EA Predict Unwillingness to Communicate?

Burgoon (1976) provided a conceptual scheme and operationalization for explicating the global communication construct--"unwillingness-to-communicate." Drawing from theory and research about anomia, introversion, self-esteem, and CA, she operationalized this construct via extensive revision and validation studies (Burgoon & Burgoon, 1974; Burgoon, 1977; Heston, 1974; Heston & Paterline, 1974; Heston & Andersen, 1972). The net result was a two-dimensional measure--approach-avoidance of communication (e.g., "I like to get involved in group discussions") and communication rewards (e.g., "My friends and family listen to my ideas and suggestions").

If EA's operationaliztion has any real validity, it should be able to predict both factors of the unwillingness-to-communicate scale (UCS). EA purports to be a predisposition which impacts on the extent to which people participate in social interaction. It also purports to be partially composed of a predisposition about rewards from evaluation. As such, the UCS serves as a useful criterion variable for EA.

Ss (N = 46) were randomly selected from the same population as Study I and given the UCS instrument. The UCS's validity has been reviewed elsewhere (Burgoon, 1976). In Study V the reliability of the approach-avoidance factor was .85 (average r with total = .65) and was .88 (average r with total = .68) for the communication rewards factor. Contrary to cited research, a small, but statistically significant correlation of .27 was detected between the two sets of scores.

Using all four EAS sub-scores as predictors, 29.4% of the variance in communication approach-avoidance UCS scores was predicted (R = .542, F = 4.27, df = 4/41, $p < \alpha$). Using all four EAS sub-scores to predict the UCS's communication reward scores, 28.7% of the variance was shared (R = .536, F = 4.13, df = 4/41, $p < \alpha$).

These relationships lend support to the criterion validity of the EA construct. If people "approach" evaluation, it makes sense that they would "approach" communication more where evaluation is present. Such was the case. If people believe their friends and family listen to their suggestions and ideas, that their friends are truthful in conversation, and that their families enjoy discussing interests and activities with them (communication rewards), it follows that people will also have a positive predisposition toward expected rewards in particular and evaluation in general. Such was the case.

Summary

EA appears to have met Criterion Two--it predicted a variety of criterion variables. EA was documented to have small, but statistically significant predictive utility regarding a crude index of student success--grade point averages. EA was shown to discriminate with some success preferences for

instructional technique. Self-esteem was predicted by EA. Two indices of classroom proxemics (seating) were predicted by EA. EA demonstrated its predictive utility regarding not only occupations with high public context intensity, but preferences with high interpersonal intensity as well. Finally, EA was shown to predict unwillingness to communicate (both expected rewards from communicating and approach-avoidance of communication). These results not only speak well for the theoretical underpinnings of the EA construct, but also support its value as a predictive tool for pragmatically important variables.

CRITERION THREE: DOES EA CONTRIBUTE UNIQUE INFORMATION ABOVE AND BEYOND COMPETING CONSTRUCTS?

A construct can be shown to relate logically to other constructs, predict criterion variables, and still have little scientific value. The ultimate test of a construct's validity is its ability to contribute information significantly above and beyond competing constructs. If EA cannot contribute significantly more information than a competing construct, then it is a redundant artifact.

CA is the most logical construct with which to compare and contrast the validity of EA. Both constructs are stress reactions to threat. CA is a reaction to the threat of communicating. EA is a reaction to the threat of being evaluated. CA is a learned predispostion. So is EA. Both are assumed to influence how, when, and what people choose to communicate.

The two constructs differ as well. EA is hypothesized to be the primus movatur of effects noted in the CA literature. EA's data base is from the experimental/laboratory tradition of the social sciences. CA's base is from the personality tradition of the communication field of inquiry. CA's theoretical base is centered around the communication avoidance literature. EA's theoretical base rests upon attribution and social facilitation literature. As such, a contrast between these constructs represents, symbolically at least, a contrast between epistomologies and, most importantly, ontologies of communicative stress reactions.

In the description of results that follow, "unique information above and beyond a competing construct" is defined as the EAS's ability to predict more unique variance in criterion variables than CA's operationalization (PRCA-24, McCroskey, 1982). In the results below, multiple regression equations were created where EAS sub-scores were entered first. PRCA-24 sub-scores were then entered. Any additional variance was operationalized as "CA's unique contributing information." The next set of equations entered PRCA-24 sub-scores first, then EAS sub-scores. Any resulting variance increase was operationalized as "EA's unique, contributing information."

Analyses

As noted in Study I, EAS sub-scores accounted for 7.1% of the variance in grade point averages. PRCA-24 sub-scores also accounted for a statistically significant proportion of variance in grade point averages (5.2%, R = .228, F = 3.88, df = 4/286, $p < \alpha$). When PRCA-24 sub-scores were entered first, EAS sub-scores added 4.6% unique variance ($p < \alpha$). When EAS sub-scores were entered first, PRCA-24 sub-scores added 2.7% unique variance ($p < \alpha$).

In Study II, EAS sub-scores accounted for 14.5% of the variance in self-esteem scores. PRCA-24 sub-scores also accounted for a statistically significant proportion of variance in self-esteem scores (13.6%, R = .369, F = 2.71, df = 4/63, $p < \alpha$). When PRCA-24 sub-scores were entered first, EAS sub-scores added 7.5% unique variance ($p < \alpha$). When EAS sub-scores were entered first, PRCA-24 sub-scores added 6.5% unique variance ($p < \alpha$).

Study III demonstrated the prediction of two proxemic variables by EAS sub-scores (14.3% and 15.9%, $p < \alpha$). Two PRCA-24 sub-scores (group and meeting contexts) also accounted for a statistically significant proportion of variance in "desired closeness to teacher" scores (3.1%, R = .176, F = 3.21, df = 2/65, $p < \alpha$). Two PRCA-24 sub-scores (group and public contexts) also accounted for a statistically significant proportion of variance in "distance from the teacher in preferred seating" scores (8.4%, R = .290, F = 3.27, df = 2/65, $p < \alpha$). When PRCA-24 sub-scores were entered first into the prediction equation of "average closeness desired to teacher" scores, EAS sub-scores added 14.2% additional unique variance ($p < \alpha$). When EAS sub-scores were entered first, PRCA-24 sub-scores added 3.0% unique variance ($p < \alpha$). When "distance from the teacher in preferred seating" scores were being predicted, PRCA-24 sub-scores added 6.4% unique variance ($p<\alpha$). When PRCA-24 sub-scores were entered first, EAS sub-scores added 13.9% unique variance ($p < \alpha$).

Study IV documented EA's ability to predict statistically significant proportions of variance in both preference ratings for occupations with high levels of public communication (21.3%) and high levels of interpersonal communication (38.1%). Two PRCA-24 sub-scores (public and interpersonal contexts) accounted for a statistically significant proportion of variance in public context occupational ratings (13.2%, R = .363, F = 4/32, df = 2.37, $p < \alpha$). PRCA-24 sub-scores did not account for a statistically significant proportion of variance in interpersonal context occupational preferences (2.2%, R = .148, F = .54, df = 4/35, $p > \alpha$). When PRCA-24 sub-scores were entered first in the prediction of public context ratings, EAS sub-scores contributed 21.4% unique, additional variance ($p < \alpha$). When EAS sub-scores were entered first, PRCA-24 sub-scores added 13.3% unique, additional variance in the prediction of public context preferences. No contributory analysis was conducted for the prediction of interpersonal context occupational ratings due to PRCA-24 sub-scores' inability to predict same.

Study V demonstrated EAS's ability to predict communication rewards (28.7% accounted for variance). PRCA-24 sub-scores were unable to account

for a statistically significant proportion of variance in UCS communication reward scores (2.4%, $\underline{R}$ = .155, $\underline{F}$ = .25, df = 4/41, $p > \alpha$). UCS approach-avoidance scores were predicted, however, by PRCA-24 sub-scores (77.0% shared variance, $\underline{R}$ = .877, $\underline{F}$ = 34.36, df = 4/41, $p < \alpha$).[12]

Summary

The results support EA's claim to contributing more unique information to criterion variables than a competing construct. Criterion Three would appear to have been met. EA's operationalization contributed more unique information than a competitive construct's operationalization across several criterion variables. As Table 2.6 attests, in five out of seven prediction contrasts, EA was the "superior" construct. Unfortunately, CA was unable to predict 2 of the 7 criterion variables. As such, a true test of the EA construct was not possible. If both constructs do not "predict" by themselves, no meaningful prediction contrast can be made. It is similar to a race with two runners. If one runner does not participate, it is not a race. One runner may be the "winner," but there was no race. Non-significant findings yield only one conclusion--there is no conclusion on two of the seven criterion variables. Given the relatively low "N's" in these two studies, caution as to EA's "construct dominance" is critical, and cannot be overlooked.

In addition, it is important to note (see Table 2.6) that for five of seven criterion variables, the competitive construct (CA) was able to contribute some unique variance that EA was not able to predict. As such, outright "rejection" of the CA construct is premature.

DISCUSSION

The overall results of the research described here support the validity of the EA construct. EA was shown to be logically related to gender stereotypes, assertiveness, trait anxiety, how evaluation is perceived to affect class assignment performance, communication apprehension, communicator style, and perceived accuracy of evaluation (grades). EA was shown to predict rated communication performance and ia measure of student success (grades), discriminate between some instructional technique preferences, and predict self-esteem. EA was shown to have an ability to contribute more unique information than a comparable construct to the prediction of a measure of student success (grades), self-esteem, classroom proxemic variables, preferences for occupations with a high degree of "public" communicative activity, and rated communication performance.

It appears that EA is a learned predisposition which has some effect on how people interpret social interaction with differing levels and types of evaluation threat. It appears that EA is a four-dimensional construct comprised of one's predisposition about evaluation's sources, expected rewards, and equitability--as well as a general "approach-avoidance" dimension (see Table 2.1).

There are three issues which modify the interpretation of this research and its findings. First, there are psychometric issues to be considered.

For one thing, salience sub-scores were sometimes curvilinearly related to other variables. While such relationships can be managed via quadratic components in prediction equations, they foster "messy" decisions regarding degrees of freedom and interpretation--particularly when the detected relationship is "small." For another thing, the unidimensionality of the PRCA-24 was a problem. In two cases, when two PRCA-24 sub-scores were entered into the equation, no other PRCA-24 sub-score added significantly different variance to the prediction. As a result, the multi-colinearity of PRCA-24 sub-scores (see Table 2.3) may have affected the prediction of criterion variables. As noted earlier, however, the decision to break down the PRCA-24 into sub-scores was essentially pragmatic, to avoid EAS sub-scores having an "unfair" advantage in entering these prediction equations.

The second issue is initially one of research logistics yet may also be a significant theoretical problem. In order to avoid contaminating the instrumentation's social desireability and because of easier admimistration logistics, this research's instrumentation was administered in the early part of the semester--before class content "covered" CA. Initially, such a common procedure seems reasonable. Beatty and Andriate (1985), however, empirically demonstrated that CA's predictive power of state anxiety becomes detectable only in latter parts of a college semester. They argue that experience with performance creates more information about the specific stimulus on which the CA "trait" is based. In this research, CA instrumentation was administered in the first third of the semester. To the extent that communication performance is linked to state anxiety, CA's predictive power may not have "had a chance" to manifest itself in Research Program I. In a way, this potential for Type II error is disconcerting. If just a "small" change in research logistics can create such a theoretical/measurement morass, then the entire body of CA research may need to be re-examined.

The final issue is the most important--epistomology. Both EA and CA have been developed partially because of their ease of instrumentation. Self-reported predisposition measures are relatively easy to develop. McCroskey (1984) contends, in contrast to this research and its epistomological underpinnings, that CA is only measured validly by self-report instrumentation:

> The implications of this conceptualization of CA for both research and implementation cannot be overemphasized. Since CA is experienced internally, the only potentially valid indicant of CA is the individual's report of that experience. . . . Measures of physiological activation and observations of behavior can provide, at best, only indirect evidence of CA. Thus, physiological and behavioral instruments intended to measure CA must be validated with self-report measures, not the other way around. To the extent that such measures are not related to self-report measures, they must be judged as invalid (p. 34).

EA, on the other hand, is held only to be a predispositional shadow of

actual behavioral differences as a consequence of evaluation's inherent role in the communicative act. EA is only "real" to the extent that behavioral differences actually occur while communicating. The contrast between these two epistomological foundations goes beyond philosophical controversy. While my epistomological bias does not permit non-falsifiable hypotheses (or constructs), CA's explication is, if not epistomologically troublesome, pragmatically questionable. McCroskey (1984, p. 34) stated that "CA is experienced internally" and therefore, prediction of criterion variables is expected consistently, "only when considering aggregate behavioral indicants of the individual across time and contexts." Any failures to predict, then, can be "dismissed" for not having "enough" aggregation, or "sufficient" time variance, or "enough" contextual variety. All of these may be excellent criteria for describing the predictive utility of a cognitive state, but are, nonetheless, "slippery" criteria for assessing a construct's criterion validity.

Commentary by Miller (1984) on CA research assists in the resolution of this epistomological and pragmatic incompatibility:

> Seldom in everyday discourse can we access another's self-feeling reports about communication. . . . What is invariably scrutinized is the way the individual communicates with others; these ongoing message behaviors trigger our assessments of, relative enjoyment of, versus apprehension about, communicating. . . Thus the proof of the treatment pudding lies in the eventual emergence of more functional, socially approved communicative behavior, even though this objective may be furthered by altering self-feeling states and/or autonomic arousal (p. 245-246).

While "self-feeling states and/or autonomic arousal" may affect behavior, it is the behavior that causes others in the dynamics of communication to behave (and attribute) differently. No one can see a person's evaluation apprehension. It must manifest itself in behavior. It is evaluation apprehension behavior that really causes any communication effects.

So What?

This research fails to support any of the four assumptions commonly advanced about communication apprehension. (1) Communication apprehension may not be a pervasive social phenomenon if evaluation apprehension is the reason for its pervasiveness. (2) Communication apprehension may not actually effect external outcomes of communication if evaluation apprehension is the larger, more encompassing construct. (3) Communication apprehension may not be a scientifically useful construct if evaluation apprehension accounts for more unique variance in criterion variables. Finally, (4) communication apprehension may not be caused by apprehension about communicating if evaluation apprehension is in fact the true cause behind communication apprehension's purported effects. This research supports evaluation apprehension as the construct more likely to be pervasive, behaviorally-linked, scientifically useful, and the true cause behind the stress reactions normally associated with "communication apprehension."

Even though this research supports evaluation apprehension's scientific usefulness, its strength is still uncertain. This research simply supports causal notions inferred from evaluation apprehension's explication. It does not prove that evaluation's intensity and type is the primus movatur behind this study's predicted effects. It does suggest, however, that controlled laboratory research is critically needed--a setting where definitively high and low "CA's" are put in a communication setting and confronted with actual differing levels and types of evaluation threat. If evaluation apprehension in this context accounts for more unique variance, only then can causality be inferred, and then only with respect to CA. Only then can the purported "dominance" of EA be finally determined.

Evaluation apprehension appears to be a rich construct. There are still unanswered questions. This research also supports the notion that causality questions are worth answering. If evaluation apprehension is, in fact, the causal agent behind communication apprehension's effects, then previous academic inquiry and pragmatic applications have been misdirected--whether etiological, remediational, or scholarly in intent.

NOTES

[1]"Foray" is used here in the denotative sense of the term; i.e., "to ravage in search of spoils (archaic)" or "a sudden or irregular invasion characterized by random, chaotic action."

[2]W. Charles Redding was the initiator of the idea that evaluation may be the causal agent behind communication apprehension's effects. While his model of scholarship and personal influence inspired this program of research, he should not be held responsible for its execution.

[3]In addition to Zajonc's distinction between instinctual or previously learned responses and new responses as a way of explaining inconsistencies in the social facilitation literature, he also argued that these effects are innately derived. In contrast, however, Cottrell (1972) claimed that the effects of social facilitation are largely learned. A third alternative may be just as reasonable. The effects of social facilitation may be common across species and different cultures because all animals, as a function of sheer survivial, must learn to cope with the "mere presence of others"--whether feeding, engaging in status clarification behavior, or communicating sexual or other social needs. Social facilitation effects, then, may be innate in the sense of shared functional utility across species and cultures, but not in the sense that people (or animals) are genetically endowed with a predisposition regarding "evaluation" threat.

[4]The author wishes to thank Mr. Peter Langlois for his assistance during the initial creation of the EAS instrument.

[5]These findings should be interpreted only as reflecting cultural stereotypes, not what men and women actually do (or should do) as a function of gender. See Tavris (1977) and Sargent (1977) for further elaboration.

[6]PRCA-24 scores were unable to discriminate between those students who dropped their classes and those who did not. Only 6 of the 31 (19.4%) who dropped their classes had high CA scores (80.9). Since no more high CA's were found in this sub-sample than would be expected by PRCA-24 population estimates (McCroskey, 1984, pg 38), this "failure to discriminate" should not be used to evaluate the CA construct.

[7]I wish to thank the Department of Communication at the . . . for their invaluable assistance in this logistically complicated research. Names . . . were particularly helpful with sample selection logistics and critical appraisal of this research. The opinions expressed herein, however, are mine and do not represent the Department of Communication nor its individual members.

[8]The remaining 157 Ss were randomly selected for research studies having nothing to do with this research.

[9]A fifth "factor" (Eigenvalue = 1.03) could have been justified mathematically, but with a five-factor solution, 4 items of the EAS did not fit "cleanly" into any one factor. As a result, a four-factor solution was judged to be the best approximation of simple structure for the EAS.

[10]AAE sub-scores are not reported because one should not expect a positive to negative valence about evaluation (approach-avoidance of evaluation) to discriminate between levels of perceived accuracy. Such was the case ($\underline{F}$ = 1.251, df = 4/374, $p > \alpha$).

[11]This study's findings were successfully replicated twice across two different student populations (Porter, 1979).

[12]A prediction comparison test was not conducted for UCS approach-avoidance scores because 7 out of 10 items of the UCS approach-avoidance factor are nearly identical to items in the PRCA-24. Such a contrast would be more of a test of semantic similarity than a test of construct validity.

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TABLE 1.1

OBLIQUE ROTATION OF EAS INSTRUMENT

Questionnaire Item Text:	Factor I	II	III	IV
Salience of Evaluation Sources				
I care what others think of me	-.02	.76	.01	.00
I care how my friends judge my actions	-.06	.63	.04	.00
I care what my teachers think of me	.12	.53	-.03	.16
Other people's approval is very important to me	-.05	.74	.08	-.14
The praise of others concerns me very little	.05	.53	-.04	.04
I care very little for what most people think	.04	.59	-.03	-.02
Equitability of Evaluation				
Tests are unfair	.09	.02	-.04	.48
People evaluate me unfairly	.05	-.03	-.07	.66
Other's judgments of me are usually arbitrary*	-.10	.02	.07	.36
Other's criticisms of me are often inconsistent	-.04	.03	.05	.46
Examinations are often biased against me	.03	.06	-.09	.59
Usually, I am accurately assessed when evaluated*	.04	-.03	.01	.35
Expected Rewards from Evaluation				
When I'm being evaluated, I expect the worst*	.26	-.06	-.12	.31
I usually do better when others are judging me	.08	-.08	.66	-.03
When other people judge me, I usually look good	.16	-.04	.55	-.01
I do my best when others are evaluating me	-.09	.04	.79	.04
When I am being judged, I usually do worse*	.19	-.12	.37	.30
If I know I'm going to be criticized, I generally do better	-.01	.10	.52	-.02
Approach-Avoidance of Evaluation				
I don't like being judged	.55	.01	.22	.11
I like my abilities being evaluated	.67	.07	.07	-.04
I don't like my abilities being analyzed	.80	.12	.09	-.08
It bothers me when people are judging me	.69	.04	.06	.07
I don't like my abilities being tested	.68	.01	-.09	.13
I don't like being criticized	.51	-.11	-.02	-.05

Note: Items with asterik (*) were dropped from the first version of the EAS instrument. N = 321, oblique rotation after Kaiser normalization; average inter-factor correlation = .146 (range = .05 to .37); Eigenvalue trace = 4.6, 3.1, 2.3 and 1.7 for the four factors, respectively.

TABLE 1.2

STABILITY ASSESSMENT OF EAS*

Factor	Time 1 Mean	Time 1 Std Dev	Time 2 Mean	Time 2 Std Dev	Stability Coefficient
Evaluation Source Salience	23.3	3.97	22.3	3.84	.800
Equitability	21.0	2.59	21.5	2.77	.741
Expected Rewards	20.4	3.46	20.5	3.66	.723
Approach-Avoidance	18.1	4.38	18.2	4.85	.714

*The interval of time between administrations was 82 days (N = 80).

TABLE 2.1

FACTOR ANALYSIS OF EVALUATION APPREHENSION SCALE

Item Text:	Factor I	II	III	IV
Salience of Evaluation Sources				
I care what others think of me	-.01	.78	.02	.01
I care how my friends judge my actions	.04	.74	.04	-.08
I care what my teachers think of me	.03	.65	.05	.01
Other people's approval is very important to me	-.05	.79	-.02	.01
The praise of others concerns me very little	-.06	.51	-.05	.05
I care very little for what most people think	.09	.55	.01	.00
Equitability of Evaluation				
Tests are unfair	.10	.00	.53	-.04
People evaluate me unfairly	-.07	-.02	.77	.06
Other's judgments of me are often without rhyme or reason	.00	-.04	.61	.04
Other's criticisms of me are often inconsistent	.03	.07	.57	-.06
Examinations are often biased against me	-.02	-.03	.66	-.02
Normally, I am assessed *fairly* when evaluated	-.02	.08	.54	.05
Expected Rewards from Evaluation				
When others are evaluating me, I do worse than if they weren't	.20	-.02	.12	.40
I usually do better when others are judging me	.03	.03	-.11	.76
When others judge me, I usually look good	-.03	-.06	.05	.72
I do my best when others are evaluating my performance	-.09	.08	-.01	.79
When I'm being judged, I usually don't do as well	.18	-.08	.08	.62
If I know I'm going to be assessed, I generally do better	.05	.08	.02	.67
Approach-Avoidance of Evaluation				
I don't like being judged	.70	-.02	-.05	.14
I like my abilities being evaluated	.69	.05	.00	.06
I don't like my abilities being analyzed	.79	-.03	-.01	-.01
It bothers me when people are judging me	.77	-.02	.00	.05
I don't like my abilities being tested	.68	.01	.11	-.02
I don't like being assessed by others	.86	.04	-.01	-.08

Note: Oblique rotation, 4-factor solution (57.3% accounted for variance), N = 407; Eigenvalue trace = 6.5, 3.2, 2.4, and 1.6 for the four factors, respectively.

TABLE 2.2

PSYCHOMETRIC ANALYSIS OF EVALUATION APPREHENSION SCALE[1]

	Evaluation Apprehension Sub-Score:			
	Salience	Equitability	Expected Rewards	Approach-Avoidance
Eigenvalue	3.213	2.380	1.608	6.545
Reliability[2]	.836	.794	.850	.898
Reliability[3]	.818	.771	.845	.890
Average Inter-item *r*	.459	.391	.486	.596
Average *r* with Total	.740	.700	.756	.814
Discriminability[4]	1.000	1.000	1.000	1.000
Kurtosis	1.976	.956	-.048	-.130
Probability[5]	.046	.659	.960	.892
Skewness	-.779	-.478	-.377	-.404
Probability[5]	.558	.639	.708	.689
Validity coefficient[6]	.252	.230	.407	.211

[1] $N = 407$, $\alpha = .05$

[2] Equation 6:18 (Nunnally, 1978).

[3] Repeated measures ANOVA (Winer, 1971, pg 288). This estimate is more relevant than Equation 6:18 concerning the additivity of items.

[4] The proportion of items able to discriminate significantly between *Ss* whose total sub-scores are 1 standard deviation above the mean of the total sub-score and those below 1 standard deviation.

[5] The probability value indicates the probability of being normal with respect to kurtosis or skewness.

[6] Correlation coefficient between sub-score and *Ss*' rating of the degree to which being evaluated improves their oral and written communication performance (Multiple *R* across all 4 sub-scores and these ratings = .456 = 20.8% shared variance; $F = 24.1$, df 4/374, $p < \alpha$).

TABLE 2.3

CORRELATION MATRIX OF CA AND EA SUB-SCORES

	AAE	ER	EQT	S	G	I	M	P
Evaluation's:								
Approach-Avoidance (AAE)	-	.48	.40	.09	-.35	-.28	-.34	-.51
Expected Rewards (ER)	.48	-	.22	.19	-.23	-.24	-.27	-.45
Equitability (EQT)	.40	.22	-	.21	-.13	-.12	-.10	-.13
Source Salience (S)	.09	.19	.21	-	-.07[1]	-.04[1]	.07[1]	.05[1]
Group CA (G)	-.35	-.23	-.13	-.07[1]	-	.61	.68	.43
Interpersonal CA (I)	-.28	-.24	-.12	-.04[1]	.61	-	.57	.42
Meeting CA (M)	-.34	-.27	-.10	.07[1]	.68	.57	-	.58
Public CA (P)	-.51	-.45	-.13	.05[1]	.43	.42	.58	-

[1]Not significant at $\alpha^{.05}$

TABLE 2.4

EAS DISCRIMINATION OF PERCEIVED GPA ACCURACY

Response Category	N	GPA	Expected Rewards	Equitability	Salience
Very Little	30	2.45	15.9	19.2	22.3
Little	78	2.50	16.4	20.1	22.7
Somewhat	158	2.73	16.8	21.8	23.5
Much	90	3.05	17.7	22.7	24.1
Very Much	23	3.33	17.5	23.5	22.4
Grand Mean		2.93	16.9	21.5	23.3
Standard Deviation		.50	3.3	3.4	3.6
F (df = 4/374)			2.9	13.4	2.8

Note: After reporting their grade point averages, Ss were asked, "To what extent are your grades an accurate reflection of how well you have *really* done in college?" All F's are significant beyond alpha.

TABLE 2.5

EAS SUB-SCORES BY DIFFERENT INSTRUCTIONAL TECHNIQUES

Instructional Technique Preferred "I would rather:"	AAE Mean	AAE F	EQT Mean	EQT F	ER Mean	ER F
Present assignments in written form	17.9		21.5		19.2	
Present assignments orally in front of class	20.5	28.9[1]	21.8	0.7	20.9	17.1[1]
Have the teacher present all of the class materials	19.7		21.6		19.7	
Have each student present part of the class materials	19.7	1.9	21.7	0.1	20.6	4.8[1]
Have the course consist primarily of lectures	19.3		21.5		20.2	
Have the course consist primarily of student discussion	19.3	0.0	22.0	0.1	20.3	0.1
Be tested with written examinations	19.9		21.9		20.0	
Be tested with oral examinations	19.0	2.4	20.8	7.4[1]	20.4	0.5
Be graded on the quality of performance	19.7		22.2		20.8	
Be graded on the quantity of improvement in class performance	19.0	1.6	21.3	5.1[1]	19.7	6.4[1]
Be graded on the quality of oral presentations	19.9		21.6		20.8	
Be graded on the quality of written work	18.5	7.6[1]	21.8	0.3	19.3	12.2[1]
Average	19.3		21.5		20.2	
Standard Deviation	4.6		3.5		3.9	

[1] $p < \alpha$, df = 1/375

TABLE 2.6

EA's CONSTRUCT INTEGRITY

Study	Criterion Variable	Accounted For Variance: CA and EA	CA Alone	EA Alone	CA Unique[1]	EA Unique[1]
I	Grade Point Average	9.8%	5.2%	7.1%	2.7%	4.6%
II	Self-esteem	21.0%	13.6%	14.5%	6.5%	7.5%
III	Proxemics:					
	Average Closeness Desired to Teacher	17.3%	3.1%	14.3%	3.0%	14.2%
	Distance from Teacher in *Preferred Seating*	22.3%	8.4%	15.9%	6.4%	13.9%
IV	Occupational Preference:					
	Public Contexts	34.6%	13.2%	21.3%	13.3%	21.4%
	Interpersonal Contexts	41.2%	2.2%[2]	38.1%	3.1%[2]	38.0%
V	Communication Rewards	29.9%	2.4%[2]	28.7%	1.2%[2]	27.5%

[1] "CA Unique" = the additional variance CA sub-scores contributed to predicted variance *after* EA sub-scores were entered in the prediction equation; "EA Unique" = the additional variance EA sub-scores contributed *after* CA sub-scores were entered.

[2] $p > \alpha .05$

FIGURE 1

INSTRUMENTATION DISCLOSURE

UNIVERSITY COMMUNICATION INVENTORY

Research is a central goal of our University. The creating of knowledge through research is, of course, just as important as the teaching of knowledge. This inventory, the University Communication Inventory, is a way by which the research goals of many people within the Department of Communication can be met. Rather than interrupting classes several times by several different people, we have combined our efforts in this one package, the UCI.

We don't want you to feel like a guinea pig, but we do need your help. As a participant in this research, we ask that you answer as completely and honestly as possible. In return for your cooperation, the Department promises:

— a FINAL REPORT of findings for your inspection

and

— COMPLETE CONFIDENTIALITY. Your instructor will not see, nor be able to see, any of your answers to the questions in the UCI.

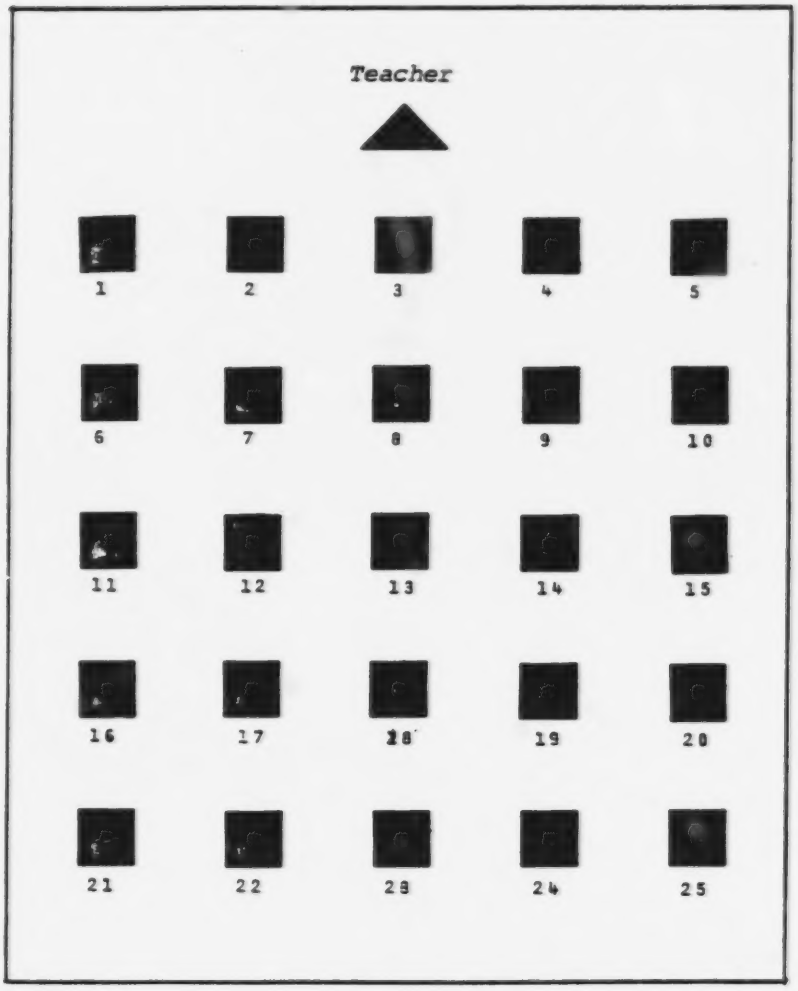
So, you can feel free to answer honestly (or not at all if you so choose). There are no "right" or "wrong" answers—just answers which accurately reflect your feelings. The UCI is not a test. It does not and can not impact on your grade in this class.

Your contribution to the further understanding of communication is appreciated and important to us.

Thank you!

FIGURE 2

STUDY III INSTRUMENTATION



Assume you have been given a choice where to sit in the "classroom" above. For each of the "seats" numbered, indicate (assume 25 students in the course):

"3" if you prefer that seat
"2" if you can tolerate sitting there
"1" if you would not sit there unless you had to

Seat:

1:_____	5:_____	9:_____	13:_____	17:_____	21:_____
2:_____	6:_____	10:_____	14:_____	18:_____	22:_____
3:_____	7:_____	11:_____	15:_____	19:_____	23:_____
4:_____	8:_____	12:_____	16:_____	20:_____	24:_____
					25:_____